

Attorney Docket No.: 02CON382P
Application Serial No.: 10/600,163

List of Claims:

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Claims 1-28 (Cancelled)

Claim 29 (Original): A method of analyzing a bitstream, said bitstream having a plurality of compressed pictures and a plurality of messages, said method comprising the steps of:

locating a buffering information message including bit rate information and buffer size information;

extracting said bit rate information and said buffer size information from said buffering information message;

computing a bit rate and a buffer size from said bit rate information and buffer size information;

selecting a random access point in said bitstream;

locating a buffering period message following said random access point;

extracting random access buffering information from said buffering period message;

computing from said random access buffering information a picture removal time associated with the first picture following said buffering period message;

wherein for each compressed picture in the bitstream following said first picture, said method further comprising:

locating a picture message including picture removal time delay information;

extracting said picture removal time delay information from said picture message;

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computing from said picture removal time delay information a picture removal time of said compressed picture;

wherein for each compressed picture following said buffering period message, said method further comprising:

counting the number of bits representing said compressed picture;

computing an initial arrival time and a final arrival time of said compressed picture, wherein said initial arrival time is equal to an earlier of said final arrival time of the immediately previous compressed picture or equal to a sum of a fixed time plus a sum of removal delays of all of said compressed pictures between said first compressed picture following said buffering period message and said compressed picture, including said compressed picture, and wherein said final arrival time is equal a sum of said initial arrival time and a time calculated based on the number of bits associated with said compressed picture at said bit rate; and

verifying that a difference between said final removal time and said initial arrival time does not exceed the time for reaching said buffer size at said bit rate.

Claim 30 (Original): The method of claim 29 further comprising the step of verifying for each of said compressed pictures that said final arrival time precedes said removal time.

Claim 31 (Original): The method of claim 29 further comprising the step of verifying that said initial arrival time of each of said compressed pictures is equal to said final arrival time of the immediately previous compressed picture.

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Claim 32 (New): A method of processing a bitstream, said bitstream having a plurality of compressed pictures and a plurality of messages, said method comprising:

- computing a bit rate and a buffer size from bit rate information and buffer size information in said bitstream;

- computing, from a buffering period message, a picture removal time associated with the first picture following said buffering period message;

- computing a picture removal time of said compressed picture from a picture message for each compressed picture in the bitstream following said first picture;

- wherein, for each compressed picture following said buffering period message, said method further comprising:

 - counting the number of bits representing said compressed picture;

 - computing an initial arrival time and a final arrival time of said compressed picture, wherein said initial arrival time is equal to an earlier of said final arrival time of the immediately previous compressed picture or equal to a sum of a fixed time plus a sum of removal delays of all of said compressed pictures between said first compressed picture following said buffering period message and said compressed picture, including said compressed picture, and wherein said final arrival time is equal a sum of said initial arrival time and a time calculated based on the number of bits associated with said compressed picture at said bit rate; and

 - verifying that a difference between said final removal time and said initial arrival time does not exceed the time for reaching said buffer size at said bit rate.

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Claim 33 (New): The method of claim 32 further comprising verifying for each of said compressed pictures that said final arrival time precedes said removal time.

Claim 34 (New): The method of claim 32 further comprising verifying that said initial arrival time of each of said compressed pictures is equal to said final arrival time of the immediately previous compressed picture.

Claim 35 (New): A system for processing a bitstream, said bitstream having a plurality of compressed pictures and a plurality of messages, said system comprising:

a decoder configured to receive said bitstream, said decoder having a pre-decoder buffer configured to buffer said bitstream;

wherein said system performs:

computing a bit rate and a buffer size from bit rate information and buffer size information in said bitstream;

computing, from a buffering period message, a picture removal time associated with the first picture following said buffering period message;

computing a picture removal time of said compressed picture from a picture message for each compressed picture in the bitstream following said first picture;

wherein, for each compressed picture following said buffering period message, said method further comprising:

counting the number of bits representing said compressed picture;

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computing an initial arrival time and a final arrival time of said compressed picture, wherein said initial arrival time is equal to an earlier of said final arrival time of the immediately previous compressed picture or equal to a sum of a fixed time plus a sum of removal delays of all of said compressed pictures between said first compressed picture following said buffering period message and said compressed picture, including said compressed picture, and wherein said final arrival time is equal a sum of said initial arrival time and a time calculated based on the number of bits associated with said compressed picture at said bit rate; and

verifying that a difference between said final removal time and said initial arrival time does not exceed the time for reaching said buffer size at said bit rate.

Claim 36 (New): The system of claim 35, wherein the system verifies that for each of said compressed pictures that said final arrival time precedes said removal time.

Claim 37 (New): The system of claim 35, wherein the system verifies that said initial arrival time of each of said compressed pictures is equal to said final arrival time of the immediately previous compressed picture.